

REMARKS

The Examiner is thanked for the performance of a thorough search and for accepting the amendments to the drawings and the specification submitted in the reply to the previous Office Action.

No claims have been added, canceled or amended. Hence, Claims 1-29 are pending in the application.

Each issue raised in the Office Action mailed June 15, 2005 is addressed hereinafter.

I. ISSUES RELATING TO THE CITED ART

A. INDEPENDENT CLAIM 1

Claim 1 has been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over McKeehan et al., U.S. Pat. No. 6,061,708 ("MCKEEHAN") in view of March et al., U.S. Patent Application No. US 2003/0007486 ("MARCH"). The rejection is respectfully traversed.

Claim 1 recites:

A method for translating between logical addresses and ports of a **first network** and a logical address and ports of a **second network connected to the first network at an intermediate device**, the method comprising the computer-implemented step of:

receiving at the intermediate device a first packet from a first device having a first address on the first network;

sending a second packet to a second device on the second network in response to receiving the first packet, the second packet including, in a source address field, data indicating a particular address of the intermediate device on the second network;

...

if it is determined that the **first packet includes the first message** registering the first resource, then

determining **first information in the first message for uniquely requesting the first resource**, and

storing data indicating the first information in a first data structure in association with the first address.

MCKEEHAN and MARCH, whether taken alone or in combination, do not disclose or suggest the above features of Claim 1.

1. MCKEEHAN does not describe the feature of Claim 1 of receiving at the intermediate device a first packet from a first device having a first address on the first network

Intermediate device

In page 3, numbered paragraph 6, sub-paragraph a., the Office Action states that MCKEEHAN describes a step of receiving a packet at the intermediate device in the Abstract, in col.3, lines 27-45, and in col. 5, lines 5-19, and further states “server receives request from client application”. Thus, the Office Action seems to assert that a server in MCKEEHAN corresponds to the feature of Claim 1 of an intermediate device at which a first network connects to a second network. Even in the broadest reasonable interpretation, MCKEEHAN does not describe any entity that corresponds to the intermediate device feature of Claim 1.

The Abstract of MCKEEHAN states:

A system, method, and apparatus for ensuring data integrity in a distributed object-oriented transaction processing environment, including support of single- and two-phased commit protocol transactions with a new protocol defined as a mixed-phase commit protocol. **A root transaction manager on a server registers distributed object resources requested by a client application for a global transaction** as being committable by either the single-phase, two-phase, or mixed-phase protocol. The root transaction manager commits the registered resources in accordance with the results of the registration step. (Emphasis added.)

Clearly, MCKEEHAN is unrelated to network address and port translation as claimed in the present application. Further, in col. 5, lines 5-19, referring apparently to its FIGs. 1A and 1B, MCKEEHAN states:

The application program, as well as various other programs, described in detail below and including **transaction manager (TM) 26**, Communications Manager 28, and Resource manager 30 operate in random access memory (RAM) 20 which operates under control of a processor 16 communicating with an operating system 17 in random access memory 20. RM 30 controls access to resources from and to storage 34, and **CM 28 handles communication with computer system 14 by communicating with CM 40. System 14 includes RAM 22**, in which operates a similar operating system 41, **TM 38**, CM 40, and RM 44. **It also includes a**

Server program 42 for responding to client-requests to its RM 44 from RM 30 of system 12. RM 44 manages resources on nonvolatile storage 48, which may also be well-known disk storage. (Emphasis added.)

Thus, the Office Action seems to assert that a server with a root transaction manager corresponds to the intermediate device feature of Claim 1. This assertion is incorrect.

In MCKEEHAN, a root server is a server that receives a “Begin_Transaction” command and registers its transaction manager as the root transaction manager for a global transaction that is initiated by the “Begin_Transaction” command. Specifically, in col. 10, lines 13-20, MCKEEHAN states

A global transaction begins with the command Begin_Transaction in step 400 (FIG. 6) by either Application Program 68 (FIG. 2A) or Application Program 94 (FIG. 2B). The begin command is received by CM 72 (FIG. 2A) and passed to Server Program 69, and RM 74. The site is now considered the root server. TM 70 is registered as the root transaction manager, in step 402. (Emphasis added.)

The passage above makes it abundantly clear that (1) a server is selected as a root server on a transaction-per-transaction basis, and (2) that the root transaction manager on that server manages a global transaction started by a “Begin_Transaction” command. However, such a server cannot connect a first network and a second network.

Nothing in the above passage, or elsewhere in MCKEEHAN, teaches, describes, or suggests, that a root server may be a device at which a first network is connected to a second network and which may perform steps related to network address translation. In fact, MCKEEHAN does not even discuss separate networks or that any of the servers it describes may be connected to two separate networks. For this reason, MCKEEHAN does not describe or suggest anything that corresponds to the intermediate device feature of Claim 1.

First device having a first address on the first network

Because MCKEEHAN does not describe servers in separate networks or an intermediate device at which a first network is connected to a second network, MCKEEHAN cannot possibly

describe the feature of Claim 1 of **receiving at the intermediate device a first packet from a first device having a first address on the first network.**

The Office Action seems to assert that receiving, at the root transaction manager of a server, a request for an object from a client application as part of a global transaction corresponds to the above feature of Claim 1. This is incorrect.

In col. 3, lines 24-30, MCKEEHAN states:

An objective of this invention is to ensure data integrity in a distributed object-oriented transaction processing transaction processing environment. A further objective of this invention is to provide such data integrity in such an environment wherein objects requested by a client application are distributed among a plurality of servers. (Emphasis added.)

More specifically, MCKEEHAN “provides a **mechanism to allow resources supported by either single-phase or two-phase commit protocols to participate in the same global transaction**, by the implementation of a new ‘mixed-phase’ commit procedure.” (Col. 9, lines 1-5.) Thus, it is clear that in MCKEEHAN any requests from client applications to servers are transaction-related requests for objects that may be distributed among plurality of servers. However, while MCKEEHAN may be describing global transactions in a networked environment (see col. 7, lines 28-31), nothing in MCKEEHAN describes or suggests that the plurality of servers, on which the objects participating in such global transactions, may be in separate networks.

Further, nothing in MCKEEHAN teaches, describes, or suggests, that (1) a client application may be executing on a device that has a specific address in a first network, and (2) that the client application may send a request for an object to a device at which the first network is connected to a second network. In fact, MCKEEHAN does not even mention the term “address”, let alone describe that a device running a client application may be identified by a

specific address on a first network or that such specific address may be included in a transaction-related request sent from a client application to a root transaction manager.

For the above reasons, MCKEEHAN does not describe or suggest the feature of Claim 1 of receiving at an intermediate device a first packet from a first device having a first address on the first network.

2. MCKEEHAN and MARCH do not describe the feature of Claim 1 of sending a second packet to a second device on the second network in response to receiving the first packet, the second packet including, in a source address field, data indicating a particular address of the intermediate device on the second network.

Sending a second packet to a second device on the second network in response to the receiving the first packet

In page 4, second full paragraph, the Office Action states that MCKEEHAN does not describe the above feature of Claim 1. However, in page 4, third full paragraph, the Office Action asserts that MARCH describes this feature.

A server with the root transaction manager in MCKEEHAN, which the Office Action has asserted as corresponding to the intermediate device of Claim 1, does NOT send anything (e.g. a message, request, etc.) to another network device in response to receiving a request from a client application. Thus, no combination of MCKEEHAN with MARCH can possibly teach that **in response to receiving a first client application request**, a second client application request is sent to another network device.

Specifically, with respect to MCKEEHAN the Office Action has asserted (1) that a server with a root transaction manager corresponds to the intermediate device feature of Claim 1, and (2) that a transaction-related request for an object from a client application to the root transaction manager corresponds to the first packet received at the intermediate device as featured in Claim

1. Claim 1 features sending a second packet to a second device on the second network in response to receiving the first packet. However, MCKEEHAN fails to teach that the root transaction manager sends a message to another network device in response to receiving a request for an object from a client application.

On the contrary, MCKEEHAN teaches that the steps performed by a transaction manager do NOT involve sending anything to any network device in response to receiving a request. Specifically, in col. 3, lines 48-59, MCKEEHAN states that

...the system includes an object resource registration and commit method that operates in a distributed object-oriented transaction processing environment. The system includes **a transaction manager on a first server that selectively registers and commits the distributed object resources requested by a client application for a global transaction. The resources are selectively registered by the transaction manager as being committable by either a single-phase, two-phase, or mixed-phase protocol and are selectively committed in accordance with the results of the registration step.** (Emphasis added.)

Thus, a transaction manager registers resources as committable by either single-phase, two-phase, or mixed-phase protocol, and selectively commits the resources. Nothing in this process includes or requires the sending of anything to any other network device. Further, in the flow diagrams of FIGs. 6 and 7, the steps performed by a root transaction manager do NOT include sending anything **in response to receiving a request** for an object from a client application.

For these reasons, no combination of MCKEEHAN with MARCH can possibly describe a transaction manager sending a second transaction-related request for an object in response to receiving first transaction-related request for an object from a client application.

The second packet including data indicating a particular address of the intermediate address on the second network

Because MCKEEHAN does not describe an intermediate device at which a first network is connected to a second network as featured in Claim 1, and because no combination of MCKEEHAN with MARCH can possibly describe the sending of a second packet to a second

device on the second network in response to receiving a first packet from a first device that has a first address on the first network, no combination of MCKEEHAN and MARCH can possibly teach that a second packet send from the intermediate device may include data indicating a particular address of the intermediate device on the second network.

For the above reasons, MCKEEHAN in view of MARCH does not describe or suggest the feature of Claim 1 of sending a second packet to a second device on the second network in response to receiving the first packet, the second packet including, in a source address field, data indicating a particular address of the intermediate device on the second network.

3. MCKEEHAN does not describe the feature of Claim 1 of, if it is determined that the first packet includes the first message registering the first resource, then determining first information in the first message for uniquely requesting the first resource and storing data indicating the first information in a first data structure in association with the first address.

In page 4, first paragraph, the Office Action alleges that the above feature of Claim 1 is described in MCKEEHAN in col. 3, lines 36-59, col. 5, lines 5-19, col. 7, line 43 to col.8, line 45, and col. 10, lines 48-57. The Office Action further asserts that **“the transactions include information specific to the registered resources and data is maintained and stored as to the location of the registered resources.”** This assertion is incorrect and is NOT supported by the cited passages. Further, even if this assertion were correct, the transactions in MCKEEHAN, and any information that may be included in these transactions, do not describe the above feature of Claim 1.

In col. 3, lines 36-59, MCKEEHAN describes a system that includes an object resource registration and commit method that operates in a distributed object-oriented transaction processing environment. (Col. 3, lines 49-52). The system includes a transaction manager that

selectively registers and commits distributed object resources requested by a client application for a global transaction. (Col. 3, lines 52-55.) The resources are selectively registered by the transaction manager as being committable by either a single-phase, two-phase, or a mixed-phase protocol. (Col. 3, lines 55-57.) Thus, contrary to the assertion in the Office Action, in this passage MCKEEHAN does NOT describe transactions that include any information relating to the **location** of the resources. In this passage MCKEEHAN only describes information relating to whether the resources are committable by a single-phase, two-phase, or a mixed-phase protocol.

In col. 4, lines 64-67, MCKEEHAN states that “a global transaction comprises a unit of work that consists of operational execution by transaction **application program (application)** 24 initiated with a Begin_Transaction, i.e. begin transaction operation.” (Emphasis added). Further, in col. 5, lines 5-19 and with respect to FIG. 1, MCKEEHAN describes the components of such application program. Thus, contrary to the assertion in the Office Action, in this passage MCKEEHAN does NOT describe that a global transaction may include any information relating to the **location** of the resources.

In col. 7, line 43 to col. 8, line 45, MCKEEHAN describes a computer system on which MCKEEHAN’s method may be implemented. However, contrary to the assertion in the Office Action, in this large passage MCKEEHAN does NOT describe that a global transaction may include any information relating to the **location** of the resources or that any such information may be stored or maintained.

Finally, in col. 10, lines 48-57 MCKEEHAN states:

If the Root's commit procedure supports the new mixed-phase commit protocol, **then the commit protocol for each resource involved in the global transaction is determined and recorded** in a configuration file on system 56, in step 414. For this step, the commit protocol may be determined in the same way described with reference to step 408 above. **All resources are registered at the root for mixed-phase but the type of commit protocol supported for each resource is also**

stored for later use in the commit procedure in FIG. 7 described below.
(Emphasis added.)

While the above passage may be describing that information relating to the type of commit protocol for each resource may be stored, absolutely nothing in this passage teaches or suggests that any information regarding the **location** of the resources is maintained or stored.

For the above reasons, MCKEEHAN does not describe that its transactions include information specific to the registered resources and that data is maintained and stored as to the location of the registered resources. Further, even if MCKEEHAN were to describe such transactions, such transactions and any information that may be included in them, does not describe the above features of Claim 1.

Claim 1 comprises at least the features of: receiving a first packet at an intermediate device from a first device on a first network; determining whether the first packet includes a first message that registers a first resource on the first device with a protocol server available on a second device in a second network; if it is determined that the first packet includes such first message, then determining first information in the first message for uniquely requesting the first resource, and storing data indicating the first information in a first data structure in association with the first address. In contrast, MCKEEHAN does not describe anything that corresponds to the features of Claim 1 of: a first packet, a first message included in the first packet, a first information in the first message, and a first data structure that stores indications of the first information. Simply put, MCKEEHAN does NOT describe any elements that could possibly correspond to the way these features of Claim 1 are interrelated.

For the reasons stated above, MCKEEHAN and MARCH, whether taken alone or in combination, do not describe or suggest all features of Claim 1. Thus, Claim 1 is patentable under 35 U.S.C. § 103(a) over MCKEEHAN in view of MARCH, and reconsideration and withdrawal of the rejection of Claim 1 is respectfully requested.

B. INDEPENDENT CLAIMS 16, AND 26-29

Independent Claims 16 and 26-29 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over MCKEEHAN in view of MARCH.

Claims 16 and 26-29 include features similar to the features of Claim 1 discussed above. Thus, Claims 16 and 26-29 are patentable under 35 U.S.C. § 103(a) over MCKEEHAN in view of MARCH for at least the reasons given above with respect to Claim 1. Reconsideration and withdrawal of the rejections of Claims 16 and 26-29 are respectfully requested.

D. DEPENDENT CLAIMS 2-15 AND 17-25

Claims 2-7, 13-14, 17-19, and 22-24 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over MCKEEHAN in view of MARCH. Claims 8-12, 15, 20-21, and 25 have been rejected as allegedly unpatentable under 35 U.S.C. § 103(a) over MCKEEHAN in view of MARCH and further in view of Gurijala et al., U.S. Patent No. 6,601,090 (“GURIJALA”).

Claims 2-15 and 17-25 are dependent upon claims 1 and 16, respectively, and thus include each and every feature of the corresponding independent claim. Furthermore, in rejecting Claims 8-12, 15, 20-21, and 25 the Office Action relies explicitly on MCKEEHAN, and not on MARCH or GURIJALA, to show the features discussed above with respect to Claims 1 and 16. Because MCKEEHAN does not teach the subject matter of Claims 1 and 16, any combination of MCKEEHAN with MARCH and GURIJALA necessarily fails to teach the complete combination recited in any dependent claim of Claims 1 or 16. Thus, each of claims 2-15 and 17-25 is allowable for the reasons given above for Claims 1 and 16.

In addition, each of Claims 2-15 and 17-25 introduces one or more additional features that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate discussion of those features

is not included at this time. Therefore, Claims 2-15 and 17-25 are allowable for the reasons given above with respect to Claims 1 and 16.

II. CONCLUSION

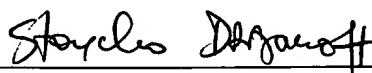
The Applicants believe that all issues raised in the Office Action have been addressed. Further, for the reasons set forth above, the Applicants respectfully submit that allowance of the pending claims is appropriate. Reconsideration of the present application is respectfully requested in light of the amendments and remarks herein.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

A petition for extension of time, to the extent necessary to make this reply timely filed, is hereby made. If applicable, a law firms check for the petition for extension of time fee is enclosed herewith. If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to charge any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,
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